Accredited Standards Committee*
National Committee for Information Technology Standards (NCITS)

To: T10 Membership
From: Ralph Weber / John Lohmeyer
Subject: SCSI Working Group Meeting -- September 15, 1999
            Huntington Beach, CA

Agenda

1. Opening Remarks
2. Approval of Agenda
3. Attendance and Membership
4. Physical Topics
5. Architecture Model and Protocol Topics
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    5.2 TTD Proposal (99-195) [Renner]
    5.3 Project Proposal for SCSI on Scheduled Transfer (SST) (99-239) [Woelz]
    5.4 SAM-2 Tasks and Work (99-232) [Weber]
    5.5 SAM-2 TASK SET FULL Clarifications (99-233) [Weber]
    5.6 Comments on SAM multi-port model (rev 8 vs. rev 11) (99-265r0) [Ericson/Weber]
    5.7 Task Management Handling Changes for SPI-3 (99-227r2) [Penokie]
    5.8 SAM-2 task attribute description errors (Reflector message) [Houlder]
6. Command Set Topics
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    6.2 Logical Unit Self Test (99-179r4) [Evans]
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    6.4 MRIE behavior with TEST bit asserted (99-208) [Elliott]
    6.5 Restricting Mode Page Code Usage (99-229) [Weber]
    6.6 EXTENDED COPY Support for Persistent Reservations (99-230r0) [Weber]
    6.7 EXTENDED COPY and Abort Task Management Functions (99-231) [Weber]
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    6.9 Adding Read/Write Attribute commands to SPC-2 (99-148r2) [Jerman]
    6.10 A detailed proposal for access control in SPC-2 (99-245r0) [Hafner]
    6.11 List lengths that exceed maximum allocation length (99-258) [Penokie]
    6.12 Beyond two terabytes (99-259) [Penokie]
    6.13 Allow WRITE BUFFER when drive is not ready (99-277r0) [Houlder]
7. New Business
    7.1 Project Proposal for SCSI VI Protocol (SVP) (99-246) [Gardner]
    7.2 SCSI Socket Services (99-251, 99-252, 99-253, 99-254, 99-255, 99-256, 99-257) [Parker]
8. Meeting Schedule
9. Adjournment

Results of Meeting

1.   Opening Remarks

John Lohmeyer, the T10 Chair, called the meeting to order at 9:00 a.m., Wednesday September 15, 1999. He thanked Skip Jones of QLogic for hosting the meeting.

As is customary, the people attending introduced themselves and a copy of the attendance list was circulated.

2.   Approval of Agenda

The draft agenda was approved with the following additions and changes:

    5.3   Project Proposal for SCSI on Scheduled Transfer (SST) (99-239) [Woelz]
    5.6   Comments on SAM multi-port model (rev 8 vs. rev 11) (99-265r0) [Ericson/Weber]
    5.7   Task Management Handling Changes for SPI-3 (99-227r2) [Penokie]
    5.8   SAM-2 task attribute description errors (Reflector message) [Houlder]

The following agenda items were added during the course of the meeting:

    6.13   Allow WRITE BUFFER when drive is not ready (99-277r0) [Houlder]

3.   Attendance and Membership

Attendance at working group meetings does not count toward minimum attendance requirements for T10 member-ship. Working group meetings are open to any person or organization directly and materially affected by T10's scope of work. The following people attended the meeting:

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         Name            S       Organization          Electronic Mail Address
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Mr. Lawrence J. Lamers P  Adaptec, Inc.            ljlamers@ieee.org
Mr. Robert Frey        P  Advansys                 bobf@advansys.com
Mr. Bill Mable         P  Amphenol Interconnect    bmable@spectra.net
Mr. Gregg Neely        P  Andataco                 greggn@andataco.com
Mr. Joseph Basista     O  C&M Corp.                joebasista@aol.com
Mr. Dave Ford          V  Clariion                 dford@orca.com
Mr. Edward Haske       P  CMD Technology           haske@cmd.com
Mr. Robert C. Elliott  P  Compaq Computer Corp.    Robert.Elliott@compaq.com
Mr. Neil Wanamaker     P  Crossroads Systems, Inc. ntw@crossroads.com
Mr. Keith W. Parker    V  Diogenes SCSI            diogenes@europa.com
Mr. I. Dal Allan       P  ENDL                     endlcom@ibm.net
Mr. Eugene Lew         P  Fujitsu                  elew@fcpa.fujitsu.com
Mr. Ben-Koon Lin       A  Fujitsu (FCPA)           blin@fcpa.fujitsu.com
Mr. Donald Woelz       V  Genroco, Inc.            don@genroco.com
Mr. Matt Wakeley       A  Hewlett Packard Co.      matt_wakeley@hp.com
Mr. Steve Jerman       V  Hewlett Packard Co.      steve_jerman@hp.com
Mr. Stewart Wyatt      V  Hewlett Packard Co.      stewart_wyatt@hp.com
Mr. George O. Penokie  P  IBM Corp.                gop@us.ibm.com
Dr. Jim Hafner         V  IBM Corp.                hafner@almaden.ibm.com
Mr. John Lohmeyer      P  LSI Logic Corp.          lohmeyer@t10.org
Mr. Ralph O. Weber     A  LSI Logic Corp.          roweber@acm.org
Mr. Brian McKean       P  Mylex Corp.              brianm@mylexboulder.com
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Mr. Edward A. Gardner  P  Ophidian Designs        eag@ophidian.com
Mr. Mark Evans         P  Quantum Corp.           mark.evans@quantum.com
Mr. Gene Milligan      P  Seagate Technology      Gene_Milligan@notes.
                                                  seagate.com
Mr. Gerald Houlder     A  Seagate Technology      gerry_houlder@notes.
                                                  seagate.com
Mr. Paul Suhler        V  Seagate Technology      paul_a_suhler@notes.
                                                  seagate.com
Mr. Erich Oetting      P  Storage Technology Corp. erich_oetting@stortek.com
Mr. David Peterson     O  StorageTek Network Sys. dap@network.com
                          Grp
Mr. Robert N. Snively  P  Sun Microsystems        bob.snively@sun.com
                          Computer Co
Mr. Fred Hooper        O  Thomas & Betts          fred_hooper@tnb.com
Mr. Arlan P. Stone     A  UNISYS Corporation      arlan.stone@unisys.com
Mr. Paul D. Aloisi     P  Unitrode Corporation    aloisi@unitrode.com
Mr. Donald R. Getty    A  Unitrode Corporation    gettd@unitrode.com
Mr. Jeffrey L.         P  Western Digital         Jeffrey.L.Williams@wdc.
Williams                  Corporation             com

35 People Present

Status Key:  P    -  Principal
             A,A# -  Alternate
             O    -  Observer
             L    -  Liaison
             V    -  Visitor
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4. Physical Topics

No physical topics were presented to the group. John Lohmeyer recommended that this item be dropped from future agendas, since the SPI working group has been renamed to cover all physical topics. The group supported John's recommendation.

5. Architecture Model and Protocol Topics

5.1 SAM-2 Review [Weber]

Ralph Weber reviewed the SAM-2 and SPC-2 changes to remove the fixed upper limit on CDB length of 16 bytes. Larry Lamers noted an error in the SAM-2 changes and Ralph stated that the error would be corrected. George Penokie noted that all the changes are editorial, based on the previously approved changes that introduce variable length CDBs. Ralph noted that the changes will appear in revisions 12 of SAM-2 and SPC-2.

5.2 TTD Proposal (99-195) [Renner]

John Lohmeyer reported that Will Renner had sent him an e-mail saying he was leaving his current company and therefore would not pursue this proposal. This topic will be removed from future agendas.

5.3 Project Proposal for SCSI on Scheduled Transfer (SST) (99-239) [Woelz]

Donald Woelz presented a review of the proposed SCSI on Scheduled Transfer (SST) project (99-275r0). George Penokie recommended that SST look at FCP-2 for changes to support variable length CDBs. The group discussed the liaison with T11 for the project, and agreed to wording changes in the project proposal. The group reviewed the remainder of the project proposal (99-239r0) and made other minor corrections. In the absence of any objections,

the working group unanimously recommended that T10 forward 99-239r1 (r0 as modified) to NCITS for processing as a new project proposal.

5.4 SAM-2 Tasks and Work (99-232) [Weber]

Ralph Weber presented a proposal to clarify the definition of a task in SAM-2. He noted wording changes made to address concerns raised privately by Charles Monia. The group discussed the proposal as revised and recommended additional revisions. In the absence of any objections, the working group unanimously recommended that 99-232r1 (r0 as modified) be approved for inclusion in SAM-2.

5.5 SAM-2 TASK SET FULL Clarifications (99-233) [Weber]

Ralph Weber presented this proposal twice, making revisions between the first and second presentations. The second proposed text was not fully acceptable to the group and Ralph agreed to bring a further revised proposal to the November meeting.

5.6 Comments on SAM multi-port model (rev 8 vs. rev 11) (99-265r0) [Ericson/Weber]

Ralph Weber led the group in a discussion of the issues raised in 99-265r0. The group concluded that a study group meeting was required to review the issues raised, but was unable to set a specific time for such a meeting during the next few weeks.

5.7 Task Management Handling Changes for SPI-3 (99-227r2) [Penokie]

George Penokie presented a proposal that the CLEAR ACA task management function be defined to end with a transition to Bus Free phase for all parallel bus cases (packetized and non-packetized). The group noted that use of the CLEAR ACA message must be restricted to the time of the initial connection and George revised the proposal accordingly. In the absence of any objections, the working group unanimously recommended that 99-232r3 (r2 as modified) be approved for inclusion in SIP-3.

5.8 SAM-2 task attribute description errors (Reflector message) [Houlder]

Gerry Houlder noted that the description of CLEAR TASK SET specifically includes the sentence: "A contingent allegiance (NACA=0) shall be cleared ...". The description of ABORT TASK SET does not include this sentence, but should. Gerry expressed the belief that absence of the statement in ABORT TASK SET is an oversight and should be corrected.

Gerry Houlder noted that the description of Logical Unit Reset includes the item "Release all SCSI device reservations". He expressed the belief that the item should be modified to indicate that persistent reservations are not released.

Gerry asked that the group to approve including both changes in SAM-2. The group agreed to the second change, and Ralph agreed to make the change without a plenary vote. Bob Snively asked that the first change be considered as a formal proposal and Gerry agreed to bring a proposal to the November meeting.

6. Command Set Topics

6.1 Device locks command (98-225) [Houlder]

Gerry Houlder requested that discussion of this topic be deferred to the November meeting.

6.2   Logical Unit Self Test (99-179r4) [Evans]

Mark Evans reviewed the revisions made at the request of the July working group. The group recommended minor changes, particularly in the description of how progress indications are returned by the REQUEST SENSE command. In the absence of any objections, the working group unanimously recommended that 99-179r5 (r4 as modified) be approved for inclusion in SPC-2.

6.3   SCSI networking [Parker]

This topic was discussed under 7.2 below.

6.4   MRIE behavior with TEST bit asserted (99-208) [Elliott]

Rob Elliott requested that discussion of this topic be deferred to the November meeting.

6.5   Restricting Mode Page Code Usage (99-229) [Weber]

Ralph Weber withdrew this proposal and stated that he would bring a different proposal to the November working group meeting.

6.6   EXTENDED COPY Support for Persistent Reservations (99-230r0) [Weber]

Ralph Weber presented a proposal to add an EXTENDED COPY segment descriptor that causes the copy manager to register a persistent reservations key. The group requested changes in the proposal. In the absence of any objections, the working group unanimously recommended that 99-230r1 (r0 as modified) be approved for inclusion in SPC-2.

6.7   EXTENDED COPY and Abort Task Management Functions (99-231) [Weber]

Ralph Weber presented a proposal to add requirements on the copy manager when an EXTENDED COPY is aborted with an ABORT TASK, ABORT TASK SET, or CLEAR TASK SET task management function. The proposal contained two alternative text additions. The group recommended that both alternatives be added as well as requesting changes in the text for both alternatives. In the absence of any objections, the working group unanimously recommended that 99-231r1 (r0 as modified) be approved for inclusion in SPC-2.

6.8   SMU Note for SPC-2 (99-234r0) [Weber]

Ralph Weber presented a proposal to move information in a SAM-2 editor's note to SPC-2 as normative text. George Penokie pointed out that the information is already present in SPC-2 and Ralph withdrew the proposal.

6.9   Adding Read/Write Attribute commands to SPC-2 (99-148r2) [Jerman]

Steve Jerman presented an overview of the Read/Write Attributes proposal (99-223r2). The group noted problems in the proposed CDB formats and discussed several other issues. Steve agreed to bring a revised proposal to the November working group meeting.

6.10 A detailed proposal for access control in SPC-2 (99-245r0) [Hafner]

Jim Hafner presented an overview of his proposal for access control (99-278r0). The group discussed the concept and raised several concerns. The group recommended that interested persons review the proposal (99-245r0) and post comments on the T10 reflector or contact Jim Hafner privately at (hafner@almaden.ibm.com).

6.11 List lengths that exceed maximum allocation length (99-258) [Penokie]

George Penokie described problems with the ability of the READ DEFECT DATA(10) command to return complete defect data and noted influences of other commands and SPC-2 requirements on the behaviors of some imple-mentations. The group discussed the specific case of READ DEFECT DATA(10) and then decided to deal with the problem in the general case. George agreed to bring a revised proposal that covers the general case to the November working group meeting.

6.12 Beyond two terabytes (99-259) [Penokie]

George Penokie reviewed approximately twenty commands where expressing two terabytes of storage require use of 8-byte LBA fields. He proposed 16 byte versions of most commands, but noted several commands for which no long LBA fields will be proposed. George agreed to bring a more detailed proposal to the November meeting.

6.13 Allow WRITE BUFFER when drive is not ready (99-277r0) [Houlder]

Gerry Houlder proposed that WRITE BUFFER and READ BUFFER be added to the list of commands allowed in specific persistent reservations cases. In the absence of any objections, the working group unanimously recom-mended that 99-277r0 be approved for inclusion in SPC-2.

7.   New Business

7.1   Project Proposal for SCSI VI Protocol (SVP) (99-246) [Gardner]

Ed Gardner presented a proposal for a new project to define a SCSI transport protocol over VI (Virtual Interface). The group requested minor changes and Ed agreed. In the absence of any objections, the working group unani-mously recommended that T10 forward 99-246r1 (r0 as modified) to NCITS for processing as a new project proposal.

7.2   SCSI Socket Services (99-251, 99-252, 99-253, 99-254, 99-255, 99-256, 99-257) [Parker]

Keith Parker presented a status update on his socket services work (99-279r0).

8.   Meeting Schedule

The next meeting of the SCSI Working Group will be Wednesday, November 3, 1999 from 9 a.m. to 7 p.m. (or until all agenda items are completed). The meeting will be at the Embassy Suites on Monterey Bay (831-393-1115) in Monterey, CA hosted by Adaptec, Inc.

9.   Adjournment

The meeting was adjourned at 6:50 p.m. on Wednesday September 15, 1999.